

What Is Claimed:

1. A method of integrating software systems comprising:
 - identifying a scope of the integration based on a multi-level top-down approach;
 - identifying faults in business rules that define software in the scope of the integration by applying generic depth-first search (DFS)-based techniques to the business rules; and
 - modifying the business rules based on the identified faults.
2. The method of claim 1, wherein identifying faults in the business rules includes:
 - representing the business rules using a transition-directed graph (TDG) representation.
3. The method of claim 1, wherein the multi-level top-down approach includes:
 - a first level that includes high-level software systems.
4. The method of claim 3, wherein the multi-level top-down approach further includes:
 - a second level that includes business processes of the high-level software systems.

5. The method of claim 4, wherein the multi-level top-down approach further includes:

a third level that includes business rules that are defined as transitions in the business processes;

a fourth level that includes interface functions that define communications between the business rules; and

a fifth level that includes data used by the business rules and the interface functions.

6. The method of claim 4, further including:

comparing the business processes to locate similar business processes that are to be integrated.

7. The method of claim 1, wherein identifying the scope of the integration is performed on software systems from multiple merging entities.

8. The method of claim 1, wherein the identified faults include faults of at least one of inconsistency, contradiction, circularity, subsumption, redundancy, and incompleteness.

9. A system for integrating information distribution systems comprising:

means for assisting a user to identify a scope of the integration using a multi-level top-down approach, the identified scope including a set of business

processes that are to be integrated and a set of business rules that define the business processes; and

a fault detection component configured to identify faults in the business rules by applying generic depth-first search (DFS)-based techniques to the business rules.

10. The system of claim 9, wherein the fault detection component is further configured to represent the business rules using a transition-directed graph (TDG) representation.

11. The system of claim 9, wherein the multi-level top-down approach includes:

a first level that includes high-level software systems.

12. The system of claim 11, wherein the multi-level top-down approach further includes:

a second level that includes the business processes, which define the high-level software systems.

13. The system of claim 12, wherein the multi-level top-down approach further includes:

a third level that includes the business rules defined as transitions in the business processes;

a fourth level that includes interface functions that define communications between the business rules; and

a fifth level that includes data used by the business rules and the interface functions.

14. The system of claim 12, wherein the means for assisting compares the business processes to locate similar business processes that are to be integrated.

15. The system of claim 9, wherein the scope of the integration is defined for software systems from multiple merging entities.

16. The system of claim 9, wherein the identified faults include faults of at least one of inconsistency, contradiction, circularity, subsumption, redundancy, and incompleteness.

17. A method of integrating information distribution systems of merging entities, the method comprising:

identifying top-level software systems that are to be integrated;

identifying business processes in the top-level software systems;

comparing the identified business processes to determine business processes that are related enough to be candidates for integration;

identifying business rules that define the business processes; and

identifying faults in the business rules by applying generic depth-first search (DFS)-based techniques to the business rules.

18. The method of claim 17, further comprising:

modifying the business rules based on the identified faults.

19. The method of claim 17, wherein comparing the identified business processes includes finding pairs of business processes that perform substantially the same or similar functions.

20. The method of claim 17, wherein the identified faults include faults of at least one of inconsistency, contradiction, circularity, subsumption, redundancy, and incompleteness.

21. The method of claim 17, wherein identifying faults in the business rules further includes:

representing the business rules using a transition-directed graph (TDG) representation.

22. A computer-readable medium containing instructions for execution by one or more processors, the computer-readable medium including:

instructions for assisting a user to identify a scope of an integration of information distribution systems by using a multi-level top-down approach, the

identified scope including a set of business processes that are to be integrated and a set of business rules that define the business processes; and instructions for identifying faults in the business rules by applying generic depth-first search (DFS)-based techniques to the business rules.

23. The computer-readable medium of claim 22, wherein the instruction for identifying faults represent the business rules using a transition-directed graph (TDG) representation.

24. The computer-readable medium of claim 22, wherein the multi-level top-down approach includes:

a first level that includes high-level software systems.

25. The computer-readable medium of claim 24, wherein the multi-level top-down approach includes:

a second level that includes the business processes, which define the high-level software systems.

26. The computer-readable medium of claim 25, wherein the multi-level top-down approach includes:

a third level that includes the business rules defined as transitions in the business processes;

a fourth level that includes interface functions that define communications between the business rules; and

a fifth level that includes data used by the business rules and the interface functions.

27. The computer-readable medium of claim 22, wherein the scope of the integration is defined for information distribution systems from multiple merging entities.

28. The computer-readable medium of claim 22, wherein the identified faults include faults of at least one of inconsistency, contradiction, circularity, subsumption, and incompleteness.